

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/779,304A  
Source: IFW  
Date Processed by STIC: 12-7-04

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:27

Input Set : A:\Sequence Listing USP1841A-SHH GimA-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

```

3 <110> APPLICANT: Huang, Sheng-He
5 <120> TITLE OF INVENTION: E. Coli Virulence Determinants and Methods of Use Thereof
7 <130> FILE REFERENCE: USP1841A-SHH
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/779,304A
C--> 10 <141> CURRENT FILING DATE: 2004-02-13
12 <150> PRIOR APPLICATION NUMBER: 60/284,762
13 <151> PRIOR FILING DATE: 2001-04-18
15 <160> NUMBER OF SEQ ID NOS: 16
17 <170> SOFTWARE: PatentIn version 3.2
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 20346
21 <212> TYPE: DNA
22 <213> ORGANISM: Escherichia coli
24 <400> SEQUENCE: 1
25 cagaagggga actggcatcg cacgatgccg cagtaaatga cgggaaacgc gatacgcgca      60
27 agacgtatcg cgttagggtca caattagtgg gaggctctga ttgctgcttt caaggccgga      120
29 agccgggacg ggctggcact gagcttatca atccccatgg tgagcagtcg tgctgtttgc      180
31 tgggtatctc cagccatttc gccgcacata ctgaccggaa tttcattatt acgtccggcc      240
33 tgacacacca tagcaatagc gttaatcacc gcgtcattac gataatcgac cagtttcgcg      300
35 acggtgctat ttctctctgtc tgccgccata atatattgcg tcagatcggt ggtgccgatg      360
37 gaaaagaaat cgacttcact ggctaatttt tctgcaacca tgactgcagc aggaacctca      420
39 atcataattc ccagcgccgg aagattttct gcagtaagtc ccagcagttt tgctgcggtt      480
41 tgtatcagcg ttttgacggc gttgacctcc tgcagcggtg aaaccatcgg cagcataaatt      540
43 tgcaacggtg ggtattcttt cccggcccgga agaagtgcgc gtaattgcgg aataaatatt      600
45 tgcggatgcg ccaggcacaa ccggataccg cgaagtccca ggaacgggtt gtcctctgcg      660
47 ggtaaagggt acgaaggtaa tggcttgctc ccgccaatat ccagagtgcg gatggtgact      720
49 ggtttatcgc caaaagcctg agcaacagaa caatacacgc gaaactgctc ttcttcacg      780
51 ggtaatgttg cagactcatg gaataaaaac tctgtgcgca gtaaaccac gccctcagcc      840
53 ccgtgagata gcgcagcctc aatatcttgc aggtcaccaa tattcgccag cacgctgatt      900
55 tttcgccac cttgcgtgac agcgggcagc atggcatcag ctaactgacg atccctttgt      960
57 tgccgcatg cttcggcgcg ttgcagtaaa tctaggcggg tgacctcatc cggtgtagc      1020
59 cacaacggc ctgtttcacc atcaagaatg accgtgtcgt tatcgcgga gttttgcggg      1080
61 gtaatatgct ccttcacaat ggcaggaata ccattgtctc tggcaaggat cgctgtatgt      1140
63 gaagttgttc cgccattatg aagacaaatg ccaagaatgt gtgctttatt caggctggtt      1200
65 atctgtgatg gcaacagatc gttggctaac aaaatgcagg gcgcggtagt gataaagtgt      1260
67 tgttcactta ccccgcaaag ctggttcagt acctgacgtg taaggtcacg gatattctgcc      1320
69 tcgcgttcac gtaaatacag tgtttccgcc tgacaatatt gctctgctaa tgccctgcatg      1380
71 acttctaacc atgcgaattc cgcctgtttg ccccttgcca gacgttgctg taattgccgg      1440
73 ttaatctctg gatcttcaag catcatctta tgggcggcaa aaatatcgcc ttcagggcct      1500
75 gccgctttat cggcaagttc acaaacaaca atgtcgatag cagactcgat tcgcgacagc      1560
77 tcttcttgcg gagaatcgac ggtgcgctgc gtaatttctg gtcgttcgca ggtaaacat      1620
79 ttaacaggac caatagcgat accattttgt actgacaagc ctgatattgc gccatcgaca      1680
81 ggggcgctga ccaccggcgt ttccgcttagc ggaatctctg aagaagcgag caggtagagct      1740

```

## RAW SEQUENCE LISTING

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:27

Input Set : A:\Sequence Listing USP1841A-SHH Gima-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

83	tcacccaaaat	gattttttcgc	caacgttttca	attgccttga	gagcgtcact	ggcatcgggtg	1800
85	ccttgggcct	ggaagatgat	ttcatcgcca	caagcggacg	cccagcattg	ccagttcgtt	1860
87	gagactgcg	gtgctggcgc	gtttatcgcc	tttgatgacg	ataatgtttg	ccgaatatcg	1920
89	tgctgatact	ttcaggatgc	tggtcgccgg	acgagcatga	atgccgtggg	gattacgtat	1980
91	cgtccagcaa	aaagtttgcc	attcatcgca	atgattgact	ggtgatatta	ctggaataac	2040
93	ctcgctgca	gttgaggatg	gcgtgagttg	ctgctgttta	gcacacagag	caagatccac	2100
95	ttcagcgata	atctccgtca	ccgaaagccc	cgctgcggca	gacgttaccg	ctgacatggc	2160
97	accttttact	acagggggcg	cgagcagata	aattgcactt	ctttgctctt	cagaaagcag	2220
99	ctccagcgcc	atctcggtag	taagcagcgc	actgcccata	tccatgagta	ccagaacgcc	2280
101	atccgggtgac	cagaccgatt	caatcgcaga	cataatggca	atagcatcag	tgccaatcgg	2340
103	attttgcgga	tcatacaatc	ctgcagcaat	ggccagagga	acgtcccctc	cagacatctg	2400
105	tagtgctaata	tcctcaaccc	cctgggcgag	acgtagacta	tgagaaacaa	taacaatggc	2460
107	aaccataatt	tatcccgca	atccttcctg	catagcctta	atcatcagcc	aggaggaggt	2520
109	cgcgccgtga	tcctgatggc	ccacactgcg	agcgccgaga	taactggcac	gtcctttttt	2580
111	cgctgcata	ttgatggtgt	tatcgacggc	tggtgcgcga	tcttgaccca	tcgtattcag	2640
113	cagaagggaa	ggcgacattc	cggttgccag	gttctttttg	gcttcgtgga	gaactggaac	2700
115	ccagacatca	cacagtgttt	tatccccttg	ttctgctttt	cctcgtgcga	taacgcctgc	2760
117	aatcccttct	tccagacacg	ccagccactc	ttccagagtt	aattctgttc	tggtcccccac	2820
119	tgccgcagaa	gcgcgaataa	ataatgtgcc	gtaaagagga	ccactggcac	cgccaacgct	2880
121	ggaaagtagt	ttcatgccag	tattttttaag	gatattgcc	atatgctgac	gttcaatgtc	2940
123	gggcaacgct	gctttcacgg	cactgaaacc	acgattcata	ttgaggccgt	ggtcggcatc	3000
125	accaatatct	ctgtcaagtg	cggttagaaa	atcttggtgt	tcagtaagat	gtgcagcaca	3060
127	actctccagc	caggcaataa	catgtttgtt	ttgaattttc	atataatgtc	cttattaaca	3120
129	tcaccaacga	agcgtggtgg	tattgaccgg	ggcatcccaa	agttgcaaaa	actctgggggt	3180
131	acatttcagc	aggctaattg	aaaatccggc	catatctaat	gatgtacaat	aattaccgac	3240
133	caactggcgg	ctaattttaa	ttccctggcg	ctgtgcggcg	cacataaata	ccctgggtac	3300
135	accatataac	tctgattcag	gcgtgctgcc	aagtccgtta	attaacacaa	tatattcggc	3360
137	attttgatcg	aatgactcat	tcattgatga	tgctgcaatc	catccccccg	catggcgatc	3420
139	ccaattggcg	aatgtgcgtc	gccagggggg	attatccagt	aattgcgcta	tcacgctgtc	3480
141	gattaaagtg	ttcagatctt	gcaaagtgcg	gcgttcaatg	ccgggttcac	cgtggatccc	3540
143	gacaccaa	tcgatttcat	tatcagccag	ttcaaataag	ggttttcccg	cggcgggaac	3600
145	cgtacaggct	gacagtgcga	tgccaaaaga	acgggtggca	ttgttaacat	ctttgccaa	3660
147	ttgctcgcac	tgccccaggt	tatatccctg	aagtgcagcc	gcaccgacaa	tcttttcaac	3720
149	aaaaactgta	cccgcacac	cgcgacgtcc	ggctgtatac	aggctatctt	ttaccgctac	3780
151	atcatcatca	ataatgacgg	tcccaacggc	gatgccttct	tcgtgtaaca	tctcgactgc	3840
153	cgtttcgaaa	ttcagaatat	cgccagtgtg	atttttgatg	aaaaacagaa	cgccagaacc	3900
155	attatcaacc	gctttggcac	attcgatcat	ttggtctggt	gtgggcatg	tgaagatttc	3960
157	accaggacat	gcaccggtta	acattcccat	accgacaaaa	cctgcatgca	gtggttcatg	4020
159	gcctgagccg	ccgctgaaa	tcagcgccac	tgcatattcg	gtttgtttgc	accacacata	4080
161	tcgggggtgc	taatttgcc	gcaggtgtgg	ccaggtggcg	atgagtcctt	ccatttggtc	4140
163	tgtagacaaca	gaatcaatct	ggttaattaa	tttcttcata	gtcattcctg	ttctgataaa	4200
165	ttacgtaaat	cgcgctaaat	atgcttgcca	gattaattct	ccagccgcaa	taaaacaaat	4260
167	cgcacgataa	taagattcat	aatgaaacag	ttaattcatt	gtgttggtcc	aaaatgaaat	4320
169	gggactcggtg	acaagattag	gggtttgtga	ttaaagcata	aaaaatattt	ttattattgc	4380
171	tttgggtaga	tgttttttac	agcgcgatca	taaaacataa	tttttcgcga	atgaaatgtt	4440
173	tgccgccact	ggatgcaacg	agtagcgtta	cagtgaagca	aaacaagtta	cgcaagggaat	4500
175	gatattggata	gattatttat	aagtccggct	aaatatatcc	agggaaatgg	ttctctggat	4560
177	aatattgcta	catatgcggc	gagtttggga	acagaaccat	taattattgc	agatgaattt	4620
179	gtgaccggctc	tggttggtga	cagagtaagc	cagagctttg	caagagaaaa	cattattgctg	4680

## RAW SEQUENCE LISTING

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:27

Input Set : A:\Sequence Listing USP1841A-SHH GimA-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

181	gattttgatg	ttttttgctg	tgaatgctcg	caaaatgaaa	tttctcgaat	tcgtaagaaa	4740
183	tttaatcagc	gtaaatataa	tgtcggttatt	ggatttggcg	gcggtaaaaac	gttggatacg	4800
185	gcaaaagccg	tagcgtatta	ccaaaaaatt	ccggtggtgg	tgggtccgac	aattgcttcc	4860
187	acagatgcgc	caaccagttc	tctggcagta	atttacaccc	cggatggtca	gttttagcgaa	4920
189	tatctgtttt	tcccgaaaaa	cccgatatg	gtgattatgg	atactggcgt	catttcagcc	4980
191	gcgccagtgc	gtctgctggt	ggccggtatg	ggagatgcat	tgtcaacctg	gtttgaggcg	5040
193	agagccaatc	aggcgtcagg	aaaagccaca	atggcaggtg	gggcgtcgac	actggcggca	5100
195	ctggctattg	cccgaactctg	ttataccacg	ctactggaag	atggctataa	ggcaaaagtc	5160
197	gcggttgaac	aaggtgttag	caccaaagcg	gtagagaata	ttatcgaaac	taatacctat	5220
199	cttagcggca	ttggatttga	aagtagcggc	ctggcggcag	ctcatgccat	tcataacggc	5280
201	atgacgcaac	tggaggaatg	tcattcattgc	taccacggtg	aaaaagtggc	atttggcgctc	5340
203	ctggtacagc	tcgtactgga	aaacgcacca	caggaggaaa	ttgaaaccgt	actcaatttc	5400
205	tgccatagcg	ttggcttgcc	gacaaatctt	catatgttag	gcgtgaagga	aattaataaa	5460
207	gataaattac	gggcagtggc	taaagccgcg	actgctgaag	gggaaactat	ccataatatg	5520
209	ccattcgtag	taacagcgca	ggacgttctt	tgtgcaattt	taactgcaca	tcatttgggga	5580
211	ctttaaaaaa	taatacggcc	tgtgcaaaag	aggcgttgg	tgtcatttta	aataacttcac	5640
213	tcgggaataa	atatgaccag	taactggaaa	cgttggatca	cgtctggcgtt	atgtgggtatt	5700
215	gccggaagtg	caatatataa	attgccttat	ttacgggaaa	cctattacga	cgcgatgcag	5760
217	caggtacag	gagcgactaa	tgtgaaactt	ggttttctaa	tgacagccta	tggctcgttg	5820
219	aactttttat	tatatctacc	tggcggttgg	gctgccgata	gattttctgc	acgtaaatat	5880
221	atgacctttt	cattaatctt	caccgggata	agcggttttt	attatgcgac	cttccccctcg	5940
223	tatactatga	tctgtttgtt	acatgcactt	tgggctgtta	caaccgtatt	tacgtttttgg	6000
225	gccgtgtgtg	tgcgaattat	tcgtaccctg	ggaaccagcg	aagaacaagg	acgcttatac	6060
227	ggttactggt	ttctgggtaa	gggattaacc	tccattgtac	tgggatttct	ttccgtgccg	6120
229	gtatttgcca	aatttggcga	aggtgttgat	ggtttacggg	cgacaattat	tttttatctc	6180
231	gtagtacta	ttctggccgg	tgttttagcc	tggtttgttt	gtcaggatga	aacgcacagc	6240
233	gaagataaag	cgaatttccg	tctggcagat	atggcattcg	tgtgaaaaat	gccgacgggt	6300
235	tggctggcag	gtgttgtgac	cttttgtatg	tggccaattt	atatcggtt	tggcatggtc	6360
237	acgcgctatc	tcacgcagat	cctgcataatg	ggcgaatcgg	aagtggcagt	tgccagtatt	6420
239	cttcgcgcct	atgtgttatt	tgcgatgggg	ggattaattg	gcggacaact	ggccgaccgc	6480
241	tgtgcgtcac	gcacgcgttt	tatgatttac	gccttattcg	gcatgattgt	ctttactacc	6540
243	gtttatttct	tcctgcccg	tgagtcgcgc	tacgtcacta	ttgcgctggc	gaatatgggt	6600
245	gcgttggggc	tgtttattta	ctctgcgaat	gccgtgttct	tctcaattat	tgatgagggt	6660
247	cggatcccg	caaaagtcac	agggactgct	gcgggtctga	tctctttact	gacctatttc	6720
249	ccggaaatct	actgctacac	gatggtgggc	aatatggtcg	accgcaaacc	gggtattgcc	6780
251	ggttatcagg	atgttttctt	gttcatgttg	gtttgcgcac	tcacggcct	tatcgccgca	6840
253	ctggctctcc	agcgtgtgaa	tcgtaaaagt	aaaaatcaag	tcaatgaaat	cactcaaaac	6900
255	aatgcggatt	gcgcacctctg	aatctgacgg	gggaaccaat	ggtggacatg	attaatgaaa	6960
257	gtgcacggca	aacgccagtc	attgcacaaa	cggacgttct	ggttatcggg	ggcggtccgg	7020
259	caggattatc	cgtgcctatt	gcggcagggc	ggttaggtgc	cagaaccatg	attggtgagc	7080
261	gctacgggtc	gctaggcggc	gtattgacgc	aggtcggggg	agaaagtttt	gcctgggtatc	7140
263	gtcatccggg	gacggaagat	tgtgaaggga	tctgtcgtga	gtatgaaggc	cgcgcacgag	7200
265	cgtcgggttt	cacacgacca	gaacctcagt	caattagcga	agttatagat	actgaaggat	7260
267	ttaaagttgt	cgccgatcag	atgattacgg	aatctggcgt	tgagccgtta	tatcactcct	7320
269	gggttgtgga	cgtgatcaag	gacggggata	cgttatgcgg	tgttatcgtc	gagaataaat	7380
271	caggtcgagg	ggcaattctg	gcgaaaagaa	tcgtcgattg	cacgggggat	gctgatattg	7440
273	ccgctcgtgc	aggcgcgcc	tggacgaaac	ggagcaagga	ccaactgatg	ggcgctcaccg	7500
275	tgatgttcag	ttgcgcaggt	gttgatgtgg	cacgctttaa	ccgttttgtt	gcggaagaac	7560
277	ttaagccgac	ctacgcggat	tggggcaaaa	actggacgat	tcaaaccacg	ggtaaagaag	7620

## RAW SEQUENCE LISTING

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:27

Input Set : A:\Sequence Listing USP1841A-SHH GimA-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

279	acccgatggt	tagcccgat	atggaggata	tttttaccg	cgcgcaacag	gatggtgtga	7680
281	ttccaggtga	cgcccaggcg	attgccggaa	cctggtcgac	cttttctgaa	agcggtgagg	7740
283	ctttccagat	gaatatggtg	tacgcctttg	gttttgactg	taccgatgtc	ttcgatttaa	7800
285	ccaaagctga	gattgccgga	aggcagcaag	cattatgggc	aattgacgca	ctacgccact	7860
287	atgttccggg	ctttgaaaat	gtacggttac	gcaatttttg	tgccacgctg	gggacgcgtg	7920
289	aatcacggct	tattgagggg	gaaatacgtg	ttgctgatga	ttacgtcctt	aatcaggggc	7980
291	gttggttcgga	cagtgtaggg	attttcccg	aatttattga	tggttccggt	tatctcattt	8040
293	tgccaacgac	cgggcggttc	tttcagatcc	cttatggttg	tctggtgccg	caaaaagtgg	8100
295	agaacctttt	ggtcgcccgt	cgctgtattt	ccgcaggcgt	agttgcacat	acttctatgc	8160
297	gtaacatgat	gtgttggtgc	gttacccgtg	aggccgcagg	tactgccgcc	gtggtttcgc	8220
299	tacagcaaaa	ttgcaccgtg	cgtcagggtg	ctatccctga	tttgcaaaac	acgctgcaac	8280
301	agcaggggcgt	tcgtctggca	taacaacaag	gcgcagagag	ctgaaagcct	gtctgcgcct	8340
303	tgcaggagaa	agaccatgag	ggatgatgac	ctggagcact	taagtgccaa	ttactggata	8400
305	accacagttc	tctgcccgtc	ctttttgggg	atattcctgt	tcatgctgca	acagcatcag	8460
307	cgtggtttag	ctctgtattg	tattgcggct	ctttcactta	tttgccgctt	tttttcttta	8520
309	cgcctttccc	gacaattgca	acacatgaaa	aaggaaacgc	gaaatattcg	acctcattga	8580
311	atgaaaacat	tcaggagact	gaaatgcact	atttaaaaaa	acgcttttct	ttgattgaac	8640
313	tgaatgtgtt	tatcccagca	atattattta	ttgcggtaat	cattctgtgt	ttgacgatat	8700
315	atccacaaga	taccagccgg	tatataaata	aaatacatca	ttttttaacc	tgggaaatgg	8760
317	gcgggatttt	tctggtcatg	acttttctgg	ttgtactttg	ttgtctgtgg	ctggccttct	8820
319	cacgttatgg	cgatatcttg	ttaggtcagt	cgggagaaaa	acctgacttc	agcttgtaa	8880
321	cctggcttgg	acttattttt	acttctggaa	cggggggcag	cttggtatat	ctggcctctg	8940
323	tagagtggat	ttggatcatt	cagcaaccgc	cttttggcgc	aacagcagga	agcgcctcagg	9000
325	ctgctcggtg	ggcctctgtt	tatggcatgt	tccattgggg	gccgtccgca	tgggcatggt	9060
327	atttgatttg	cgccgttcc	attggttgg	ttatgcatgt	taagaaaaca	aactcattaa	9120
329	aggtcagtga	tttatgtcgt	ggatgtttgg	gagcgcgtgc	ggatggtttt	tgcgggcatt	9180
331	gtgtgaattt	tttctacatg	tttggtttgc	tcggcggcgc	ggtaacgtct	ctggcgtggt	9240
333	gaacgccgat	gatttctgcc	gtattttgcc	atgtgttcca	tctggatcct	gccgggcagt	9300
335	ttatcaatgt	catggttatt	tttatctgga	cgctagtacc	attattcatt	ctcttttttg	9360
337	gacttaaaaa	aggtgtggca	tgggccagta	actggaatat	tcgtgctgac	attttgatgc	9420
339	tactggcaat	actgattttg	ggaccaacgc	cttttatact	taatcaatca	attgatggtc	9480
341	tcggcctgat	gctgcaaaat	ttttagcgca	tgagtttaag	taccgatgct	attggtcgta	9540
343	gcggatttcc	acagatgtgg	accgtatttt	atttttcatg	gtgggtcgtg	tatgccatcc	9600
345	cattcggttt	atttatcgcc	cgtatttcaa	aaggaaaggac	gatccggcaa	ttgattgtat	9660
347	gtggaactct	ggcaggttca	ttgggatgca	tggtttttta	catggtactg	gctaatttcg	9720
349	gcttatcggt	gcagacaact	catgtcatcg	attttgttcc	catacttaac	gaacaagggc	9780
351	gaggcggttg	cgtttctcgt	ttactggagc	agctaccgcg	aagtcagggtg	tttttggttg	9840
353	cttttggggc	tatagcatta	atttcatata	ttaccggaca	ctgtactgtg	ggttatgccc	9900
355	tcggtttttg	gacgcaaaaa	cggccagata	agtaaaagtg	aaccggcatt	ctggaacgtg	9960
357	gcatttttgg	tgattatgac	tggaaatcgt	gccatcacac	tctatcttct	tgatgcgcaa	10020
359	agtctgcaac	cgctacaaac	ggtgtctatt	ctggctggac	taccgctttg	cggcgtggtg	10080
361	tttattttat	tgaagagttt	tttgacgcag	cttgccgctg	aagagaaaaa	cgcgagagat	10140
363	gaataatgat	gttcaggaat	gcccggtaat	ttgcattatc	gggcatttta	ccgaacggga	10200
365	attaactcag	gatcgcacga	aaatatcccg	ccagattttc	tccaagacga	attaaattat	10260
367	tttctccctg	actcagcgcg	gtcggtaaat	tgcgaaggcc	gttgacgaca	gaaaaacagg	10320
369	cttctattcc	acactggcgt	aactcattca	gatcaagttg	atcatcgata	taccgggcaa	10380
371	ttgcgataac	cggaaacccc	atcatctggg	caacttttgc	tgcgcctacg	ggcgctttgc	10440
373	cattcaggct	ctgactatct	aatttccctt	caccgcacaat	ggccaatgct	gcgtatttta	10500
375	aatgttgggt	atattgaatc	gcttccagca	cgagcgaaat	accgggttgt	aagcgagcat	10560

## RAW SEQUENCE LISTING

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:27

Input Set : A:\Sequence Listing USP1841A-SHH GimA-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

377	cgagaaaagc	catcaaggcc	gcgccaacgc	cgccagccgc	cccagaaccg	ggtatcgtat	10620
379	cgacgtcttt	accacaacaa	cggtagatgc	aacgggcata	gtttttcatt	ccctgttcca	10680
381	gttgctcaag	gtcgtagca	ctggccctt	tttggtgagc	aaaaaccgg	gtcgcgccgt	10740
383	tatcgccggt	tagtgggtg	gtgacatcac	aggccgcaat	aaatttcaca	tttttcaatc	10800
385	gtggatcgag	gtgctgtaag	tcaatgtggt	gaattgccgc	cagcccatc	ccattaacag	10860
387	agactgatag	cccttcggcg	tctgtaaacy	atgcgccaa	tgccgacatc	aaccaatac	10920
389	cgccatcatt	tgtagcactg	ccaccaggc	atagaataac	ggtatcaata	ttgtgttcca	10980
391	ggcgccgag	aataagttcg	ccagtgccaa	acgacgtcgt	ataaagggga	gaacgctgga	11040
393	caggagaaac	cagttccagc	cctgaagctt	gtgccagttc	tatcactgcg	gtggtttggt	11100
395	tgccataaat	accgtattgc	gcatgtattg	attcgccaa	cggtcgggtg	acttttttag	11160
397	tgtaaaacgt	accgtcagtc	gcatgaatga	gtgtttcgag	cgtgccttcg	ccgccgtcag	11220
399	ccacgggcaa	acacaccagt	tggtgccag	gcaggacctt	gcgccagccg	gttgccagcg	11280
401	cttcagcgac	tttccatgcg	ggaaggcatt	ctttaaagga	gtcgggggag	ataactatct	11340
403	tcatagcagg	tctctcaaaa	taggggaatg	gggcagggca	atgagtgaac	gaagggaacc	11400
405	ggtggttccc	ttaattcatt	atttacggat	agtgaatttg	gcttgtgttt	caagcgcccg	11460
407	aattaacgca	gaatgatccc	actctttacc	accgagcgcg	gcgcaggcgc	taaataactg	11520
409	ctgtgtcgtc	gccgtgttag	gaagcggggt	attcaacagg	cgggcattct	ccagcgccag	11580
411	attcagatct	ttttgatgca	gactaatacg	aaaaccgggt	tccaatgttc	cttttatcat	11640
413	ccgttcgcc	tgaacttcca	gcacgcgaga	ggaggctaac	cctcccatca	gcgcttcacg	11700
415	tacgcgggcg	ggatcggcac	ctgatttact	ggcaaagagc	agggcttcag	ccaccgcttc	11760
417	aatattcagt	gcaacaataa	tttggttagc	gactttgcac	gtttgaccat	caccgacgtt	11820
419	accgaccaga	gtgatatttt	taccatcaa	ttccagaatc	ggtttgatct	gcaaataaac	11880
421	ctcttcacat	ccgccaacca	taatggaaag	cgccccggt	ttcgcgccaa	cttcaccgcc	11940
423	agagacgggc	gcatcgatat	attccgcgcc	taccgcgata	atacgtttg	caaatgcttt	12000
425	ggtggcaacc	ggggaaattg	aactcatatc	aatcacaatt	ttcccggtgc	ttaaaccgtg	12060
427	tattacgcc	tagttgggat	gaaaaagaac	atcctcaaca	tgtggggtat	caggagcat	12120
429	ggtgatgatg	acctcacact	cctgcgcgac	ttcacgcggt	gtagagcaaa	caatgccacg	12180
431	ttaccaata	aactcttgcg	gtgcagggtc	aaaatgcgct	gaaaaataaa	gagtatgtcc	12240
433	ggcttgttgt	aaattataag	ccatcggtt	accattatg	ccggtgccga	taaatccaat	12300
435	attcagata	aatacctcag	ggattaaaat	tgagtctcgt	tttttagcca	gcgtagactt	12360
437	tcagtcgttg	tcgtagatgg	aacatattcg	caaccaatcc	atccctgata	accaatctgg	12420
439	tctatataat	ttaacaacca	cgggttaatta	atttctcccg	tccttggttc	atgacgcca	12480
441	gggttatcgg	ctaattgaat	atgttcaatg	ttattcagg	tgtttttgat	tggtgtagca	12540
443	atattccctt	ccatgatttg	catatgataa	atategtatt	gatagcgaaa	atcaggatga	12600
445	tttaccatcat	aaataatatt	gagggttgt	ctgggtgttg	taacaaaaaa	accgggaata	12660
447	tcttttgtat	taatggcttc	cagaactaac	tttatgccat	gagaagccaa	tttatctact	12720
449	gcatagcgca	aattttcgac	cagtgtttca	tgacattgtt	catgcgaata	accacctgga	12780
451	tgttttcctg	caaggcaatt	aacttgtgaa	caattaagg	cctgggcata	ttctatcgct	12840
453	ctgcaaacac	cctcctgaaa	ttcttttgcc	cgactaggat	gacatgcaat	accccggttc	12900
455	ccctcttgcc	agttaccgcg	aggaagatta	aacaaaacct	gagtcagatt	atgttgatgc	12960
457	agttgcgaag	ccagctcgtc	agtggaaaag	tcatagggaa	aaagatattc	aacgccgtgg	13020
459	aatcctgcgt	gacttgcttg	cgcaaacgt	tcaataaatg	gatgctcgg	aaaaagcatt	13080
461	gataaattcg	ctgcaaacct	tgccataatc	ctgtttcctt	ataaatcgag	aatttcttca	13140
463	aattctgtga	ctttattaat	gtcagggtccc	atagcgatat	tagtcacgcg	ttcagtaata	13200
465	atttctacaa	caacagggtac	gtgaaattcg	tcacgcaaac	gctgggcttc	ttgcagtgc	13260
467	ggcgcaatat	cctgtgatgc	gaatacgcga	atcgctttac	atcctaatac	ttcaaccaca	13320
469	gctttatgat	caacgccata	accattaatt	tctggagcat	taatatcttc	aaatgacagt	13380
471	tgaacgcaat	aatcaatctc	aatgcacgt	tgtgattgac	gaatcaaac	aagataagcg	13440
473	ttgttaagta	aaatatggat	atacggaaga	ttaaattgtg	cgccgacggc	taattcttca	13500

**VERIFICATION SUMMARY**

DATE: 12/07/2004

PATENT APPLICATION: US/10/779,304A

TIME: 16:58:28

Input Set : A:\Sequence Listing USP1841A-SHH GimA-DNA-USPTO

Format.ST25.txt

Output Set: N:\CRF4\12072004\J779304A.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date